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Letter

Fishermen and Their Gear May Threaten Bald Eagles at Magdalena Bay, B.C.S., Mexico

The status of the bald eagle (*Haliaeetus leucocephalus*) in Baja California was recently summarized by Henny et al. (1993, *J. Raptor Res.* 27:203–209) who called attention to the critical situation of the only nesting population located in the Magdalena Bay region. They noted that a maximum of only three nesting pairs was found in any year over the last decade, and that the "low numbers and restricted distribution make this disjunct population especially vulnerable to human disturbance." Although human disturbance may be an important factor influencing the small bald eagle population in the Magdalena Bay region, specific factors affecting this population have not been defined. Here, we present information about two forms of human disturbance of bald eagle nestlings and fledglings in the Magdalena Bay area.

The first type of disturbance is illustrated by an observation that we made on 6 May 1994, while surveying Isla Margarita, Baja California (24°20′–24°31′N, 111°43′–112°01′W) for bald eagles and their nests. We found a fledgling bald eagle suspended in a tree branch. The eagle was alive but entangled with a nylon cord wrapped around its right foot. The pressure of one of the strands of the nylon cord had almost separated the foot from the leg at the tarsometatarsus. We released the bird on a low bush about 1.5 m from the tree.

A bald eagle nest on a big rock, about 300 m from where the fledgling was entangled, was constructed using mainly mangrove tree (*Rizophora mangle*) branches and nylon cord. Nylon cord is used extensively by local fishermen, and therefore, broken strands of nylon cord are present year-round throughout the Magdalena Bay region.

Several studies have shown adverse effects of commercial and recreational fishing activities on raptors (J.M. Meyers 1989, *Ala. Birdlife* 36:17; J.R. Parrish and B.A. Maurer 1991, *J. Raptor Res.* 25:136–139) and marine birds (N. Atkins and B. Henemann 1987, *Am. Birds* 41:1395–1403). Bald eagles elsewhere have been shown to be prone to this danger (J.W. Watson 1989, *J. Raptor Res.* 23:52–53). Poole (1989, Ospreys, Cambridge Univ. Press, Cambridge, U.K.) reported that tangled old fishing line in osprey nests sometimes ensnared the young, constricting blood flow and amputating limbs. We have also observed white storks (*Ciconia ciconia*) in Spain lining their nests with plastic cords, and sometimes becoming entangled in them.

The second form of disturbance is the taking of bald eagle fledglings and yearlings as pets by fishermen in Magdalena Bay (E. Amador-Silva and J. Guzman-Poo in press, *Rev. Inv. Cient.* UABCS, La Paz, México). This activity seems to be continuing in the region. A fisherman showed us a picture of a bald eagle fledgling that he took from a nest in 1992 at Puerto Chale. We also have a picture of a first-year bird caught by another fisherman in Lopez Mateos in 1993. Although bald eagles in Magdalena Bay seem to be producing young to the fledging stage at a normal rate (Henny et al. 1993, *J. Raptor Res.* 27:203–209) the population may not be increasing because of the loss of fledglings through entanglement in fishing gear and capture by fishermen.

The Magdalena Bay area now contains the only bald eagle nesting population in Baja California (Henny et al. 1993, *J. Raptor Res.* 27:203–209) and represents the southernmost limit of breeding population for this species. We propose that the Magdalena Bay bald eagle population should be immediately protected to preserve the species in Baja California. Nests should be monitored continuously during the breeding season to prevent the human removal of nestlings. Observers should regularly remove nylon cords from the nests from the time the nestlings are approximately 2 wk old until they fledge. Additionally, fishermen should be targeted for an environmental education program.

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